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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,195	10/16/2006	Gregoire Mathey	283534US0PCT	7520

22850 7590 09/11/2009

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
THOMPSON, TIMOTHY J	
ART UNIT	PAPER NUMBER
2873	

NOTIFICATION DATE	DELIVERY MODE
09/11/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/564,195	MATHEY ET AL.	
	Examiner	Art Unit	
	Timothy J. Thompson	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) *21-24,28-33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14,16-20 and 25-27* is/are rejected.

7)☒ Claim(s) *15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/10/2006; 1/11/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7, 9, 10-13, 16, 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Varaprasad(U.S. Pat. No. 2007/0184284).

Regarding claim 1, Varaprasad discloses An electrically controllable(fig 4, 24) device with variable optical/energy properties in transmission or in reflection(para 0003), comprising a single self-supporting film(fig 1, 6;para 0018), the said film being formed from a polymerized blend of at least a first element suitable for providing a blend with an electrochromic functionality and at least a second element suitable for providing an electrolyte functionality for transporting ionic charges within the said blend(para 0018; para 0057).

Regarding claim 2, Varaprasad discloses wherein the blend constitutes a single matrix(para 0013, para 0029) that is obtained by simultaneous polymerization of the first and second elements(the method of polymerizing the first and second elements is not given patentable weight since methods of making are not germane to the patentability of device claims).

Regarding claim 3, Varaprasad discloses in that wherein the blend constitutes a single matrix(para 0013,para 0029) that is obtained by successive

polymerization of the first and second elements(the method of polymerizing the first and second elements is not given patentable weight since methods of making are not germane to the patentability of device claims).

Regarding claim 7, Varaprasad discloses wherein the first element is a blend of at least two electrochromic materials, at least one having an anodic coloration, the other having a cathodic coloration(para 0008).

Regarding claim 9, Varaprasad discloses wherein the material having an anodic coloration is based on 5,10- phenazine or one of its derivatives(claim 37).

Regarding claim 10-12 Varaprasad discloses the second element is a polymer chosen from polyoxyalkylenes and more specifically polyethylene glycol(para 0069).

Regarding claim 13, Varaprasad discloses wherein the self-supporting film includes at least one third element suitable for improving its mechanical integrity or for improving the ionic conductivity(para 0014).

Regarding claim 16, 17, Varaprasad discloses the film is a interpenetrating or semi interpenertrating network(para 0029, since polymers are joined through polymerization as with the applicants device this limitation is inherently disclosed).

Claims 1, 19, 20, 25, 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Cogan (U.S. Pat. No. 5,327,281).

Regarding claim 1, Cogan discloses An electrically controllable device with variable optical/energy properties in transmission or in reflection(col 7, lines 15-20), comprising a single self-supporting film, the said film being formed from a polymerized blend of at least a first element suitable for providing a blend with an electrochromic functionality and at least a second element suitable for providing an electrolyte functionality for transporting ionic charges within the said blend(col 8, lines 57-68).

Regarding claim 19, Cogan discloses at least one carrier substrate, wherein the said device being is placed between a lower current lead and the an upper current lead wherein the lower current lead is closest to the carrier substrate, and the upper current lead is furthest from the carrier substrate (col 5, lines 5-15).

Regarding claim 20, Cogan discloses wherein the system is an electrochromic or viologen-based system(col 1, line 20).

Regarding claim 25, Cogan discloses the system operates in transmission or in reflection(cliam 4, lines 64-68).

Regarding claim 26, Cogan discloses the substrate is transparent, flat or curved, clear or bulk-tinted, and of polygonal shape or at least partly curved(fig 1).

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cogan (U.S. Pat. No. 5,327,281) as detailed in claim rejection 19 above, an further in view of Maricle(U.S. Pat. No. 3,844,636).

Regarding claim 27, Cogan does not disclose the substrate is opaque. However, Maricle discloses an opaque substrate with an electrochromic device(col 4, lines 34-50). It would have been obvious to one skilled in the art at the time of the invention to use an opaque substrate as shown by Maricle, with the electrochromic device of Reynolds et al., since as shown by Maricle an opaque substrate is commonly used for preventing light from leaking into the elechromic device when in the reflective mode.

Claim 10, 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cogan (U.S. Pat. No. 5,327,281) as detailed in claim rejection 1 above, an further in view of Takaoka et al.(U.S. Pat. No. 6,589,383).

Regarding claim 10, 11 Cogan does not disclose the second element is a polymer chosen from polyoxyalkylenes. However, Takaoka et al discloses the second element is a polymer chosen from polyoxyalkylenes stating it has high conductivity((claim 22, col 1, lines 20-30). It would have been obvious to one skilled in the art at the time of the invention to use second element is a polymer chosen from polyoxyalkylenes as shown by Takaoka et al, with the electrochromic device of Reynolds et al., since as shown by Takaoka et al an second element is a polymer chosen from polyoxyalkylenes is commonly used do to it high ion conductivity.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Varaprasad(U.S. Pat. No. 2007/0184284) as detailed in claim rejection 1 above, an further in view of Lenhard et al.(U.S. Pat. No. 2005/0219678).

Regarding claim 14 Varaprasad does not disclose a third element is a polymerselected from the group consisting of polyacrylates, polymethacrylates, polycarbonates, polyacetates, polyurethanes, cellulosics,and mixtures thereof. However, Lenhard et al. discloses a third element is a polymerselected from the group consisting of polyacrylates, polymethacrylates, polycarbonates, polyacetates, polyurethanes, cellulosics,and mixtures thereof stating a polymeric additive helps to control viscosity and helps prevent streaking and spotting in an electrochroimic device(para 0051). It would have been obvious to one skilled in the art at the time of the invention to use the third element is a polymerselected from the group consisting of polyacrylates, polymethacrylates, polycarbonates, polyacetates, polyurethanes, cellulosics,and mixtures thereof as shown by of Lenhard et al , with the electrochromic device of Varaprasad, since as shown by Lenhard et al the third element is a polymerselected from the group consisting of polyacrylates, polymethacrylates, polycarbonates, polyacetates, polyurethanes, cellulosics,and mixtures thereof. is commonly done so as to help control viscosity as well as preventing streaking and spotting in an electrochroimic device.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Varaprasad(U.S. Pat. No. 2007/0184284) as detailed in claim rejection 1 above, an further in view of Demiryont(U.S. Pat. No. 4,923,289).

Regarding claim 18 Varaprasad does not disclose a gradient in the composition of the first element along a characteristic dimension of the film. However, Demiryont discloses a gradient in the composition of the first element along a characteristic dimension of the film (fig 2, 40) stating this can be done along the top of a windshield(col 4, lines 40-50). It would have been obvious to one skilled in the art at the time of the invention to use a gradient in the composition of the first element along a characteristic dimension of the film as shown by Demiryont, with the electrochromic device of Varaprasad, since as shown by Demiryont a gradient in the composition of the first element along a characteristic dimension of the film is commonly done in windshields for properly shielding the sun from the drivers eye..

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynolds et al. (U.S. Pat. No. 6,791,738) in view of

Varaprasad(U.S. Pat. No. 2007/0184284) and further in view of Cogan (U.S. Pat. No. 5,327,281)

Regarding claim 1, Reynolds et al. discloses An electrically controllable device with variable optical/energy properties in transmission or in reflection(col 2, lines 50-67), comprising a single film(fig 5, Gel electrolyte), the said film being formed from a polymerized blend of at least a first element suitable for providing a blend with an electrochromic functionality and at least a second element suitable for providing an electrolyte functionality for transporting ionic charges within the said blend(col 2, lines 50-55). Reynolds et al. does not disclose a single self-supporting film. However, Varaprasad and cogan discloses forming an electrochromic material as a single self-supporting film(para 0014, 0015 Varaprasad) and (col 8, lines 57-68 cougan) with Varaprasad stating that polymeric solid film electrochromic material demonstrastes a resistance to degradation(para 0017). It would have been obvious to one skilled in the art at the time of the invention to form the electrochromic material as a single self-supporting film as shown by Varaprasad and cogan, with the elcetrochromic device of Reynolds et al., since as shown by Varaprasad and cogan a single self-supporting film is commonly used for it ability to resist degradation.

Regarding claim 4, Reynolds et al. discloses wherein the first element is a conductive polymer(col 7, 35-45).

Regarding claim 5, Reynolds et al. discloses wherein the first element is a polymer based on a 3,4-alkylene dioxythiophene or one of its derivatives(col 8, lines 20-30).

Regarding claim 6, Reynolds et al. discloses wherein the first element is a polymer based on carbazole or one of its derivatives(col 8, line 15).

Regarding claim 7, Reynolds et al. discloses wherein the first element is a blend of at least two electrochromic materials, at least one having an anodic coloration, the other having a cathodic coloration(col 8, line 15 and col 10, lines 15-31).

Allowable Subject Matter

Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Thompson whose telephone number is (571) 272-2342. The examiner can normally be reached on 8:30 AM - 6:00 Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mack Ricky can be reached on (571) 272-2333. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Timothy J Thompson/
Examiner, Art Unit 2873